Choosing Among Alternative Brands: Revisiting the Way Involvement Drives Consumer Selectivity

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Abstract

This study provides original theoretical and practical insights on the role of involvement in consumer decision making by demonstrating its negative effect on the relative size of the consideration set. Two experimental studies were conducted to test the relations between these constructs. The moderating effect of the nature of a product category and of the decision-making context were also examined. The results suggest that high involvement makes consumers more selective when evaluating the brands, they consider for purchase. This points towards different marketing practices in order to enhance brand attitudes or strengthen brand awareness accordingly.

Keywords – Consumer Behaviour, Decision making, Involvement, Awareness set, Consideration set

Introduction

Typically, consumers need to make numerous decisions and their decision making relies largely on cognitive processes (Fishbein and Ajzen 1975), affective influences and the use of heuristics (e.g. Hoyer , 1984; Hauser, 1990; 2014; Gigerenzer & Selton, 2001). While trying to make a final choice, consumers tend to make this process more comprehensible by reducing the number of alternatives they are aware of (their awareness set, AS) into smaller sets of options (Pieters & Verplanken, 1995), known as consideration sets (CSs). The latter include the alternatives that consumers actually consider for their final selection (Shocker, Ben-Akiva, Boccara & Nedungadi, 1991).

While CS practice is solidly established in prior literature (e.g. Shocker et al. 1991; Paulssen & Bagozzi, 2005; Wu & Rangaswamy, 2003), given the prominence of this process in decision making, there is, nonetheless, an ongoing interest in the dynamics of CS formation (e.g. Desai & Hoyer, 2000; Paulssen & Bagozzi, 2005). A variety of widely researched factors, such as perceived risk (Deshpande and Hoyer, 1983), product knowledge (e.g. Bettman and Park, 1980) and involvement (e.g. Bloch and Richins, 1983), can potentially regulate the way consumers ultimately select among alternatives. Involvement is of paramount importance in decision making, and a myriad of studies in the fields of social psychology, consumer behaviour and marketing have shown the role it can have when a purchase decision takes place. Still, there are striking inconsistencies in the existing literature regarding the role of involvement in the formation of a CS, pertaining mostly to the different approaches in the conceptualization of involvement (Festinger, 1957; Petty, Cacioppo, & Goldman, 1981; Freedman, 1964; Howard & Sheth, 1969; Krugman, 1965; Gilovich et al. 2002; Gigerenzer, 2000). The employment of different types of involvement (e.g. purchase involvement as opposed to product involvement) and the use of various and sometimes conflicting

categorizations and terminologies to describe each of the two constructs have produced contradictory results; hence, this calls for clarification and additional exploration.

Thus, whilst involvement is heavily researched already, there is still a need for further research in this area. The contribution of the present study lies in the approach we adopt to examine how involvement impacts the way consumers form sets of alternatives in their decision making. Our proposition is based on the fact that involvement has a direct effect on AS size, which, in turn, has a direct effect on CS size. In other words, there is a significant direct effect of AS size on CS size, the magnitude and extent of which is relatively undetermined in the extant literature. Here we depart from the conventional analysis of the effect of involvement on the decision-making process by employing the ratio of CS relative to AS in our research.

On this basis, we first aimed to advance existing research on the way involvement impacts the size of CS relative to AS. Additionally, we found new empirical evidence on how this effect is shaped in both memory-based and stimuli-based choice contexts, as the extant literature seems to exclusively focus on stimuli-based choice contexts (e.g. Paulssen & Bagozzi, 2005; Kardes, 1994; Kardes et al. 2004). Finally, we further extended our analysis to show how involvement drives consumer selectivity by studying the consumer evaluations of the alternatives/brands they choose to include in their final set of alternatives in their CS.

The decision-making process, consideration set and awareness set

Early researchers developed frameworks and models to explain consumer decision making (Ajzen & Fishbein, 1977; Engel et al., 1968; Howard & Sheth, 1969; Nicossia, 1966). Most studies on decision making converge on the idea that consumers tend to economize on

the cognitive effort required to reach a purchase decision (e.g. Lleras et al., 2017; Bremer, Heitmann & Schreiner, 2016; Turley, & LeBlanc, 1995). In other words, consumers usually do not process all available alternatives upon a particular decision-making occasion but evaluate only the acceptable ones (e.g. Hauser, 2015; Desai & Hoyer, 2000; Narayana & Markin, 1975; Nedungadi, 1990; Shocker, Ben-Akiva, Boccara, & Nedungadi, 1991). On this ground, several two-stage or multiple-stage decision-making models and alternative categorizations have been developed in order to understand the consumer decision-making process and final choice (e.g. Gensch, 1987; Johnson & Paye, 1985; Manrai & Andrews, 1994; Brizoux & Laroche, 1980; Narayana & Markin, 1975; Shocker, Ben-Akiva, Boccara, & Nedungadi, 1991). In particular, Shocker et al. (1991) have proposed a multi-stage, sequential decision-making model involving a series of hierarchical sets of alternatives. The universal set includes all the brands in a product category that are available in the market. The AS, a subset of the universal set, includes only those brands that the consumer can retrieve from memory (Alba & Chattopadhyay, 1985). The nature of a product category (e.g. Roberts, 1989) and involvement (Brisoux & Cheron, 1990; Zaichkowsky, 1985) are two key factors that have been found to play an important role in determining the size of the AS. For instance, Narayana and Markin (1975) found an average size of 6.5, 3.5 and 10.6 brands in the ASs of toothpaste, deodorant and beer, respectively. The size of the AS is also determined by consumer factors, such as involvement with the product category or the relevant purchase decision. Highly involved consumers hold larger awareness sets compared to less involved consumers (Brisoux & Cheron, 1990; Zaichkowsky, 1985). The size of the has been found to influence the formation of the CS (e.g. Brasel, 2008; Irwin & Naylor, 2009). Specifically, Irwin and Naylor (2009) suggest that consumers are more likely to follow an include strategy vs. an exclude strategy in their CS formation when dealing with large awareness sets. This in turn, will lead consumers to have more positive thoughts and less negative thoughts while formulating their CSs (Goodman & Broniarczyk, 2009). On the

contrary, when they are dealing with smaller awareness sets consumers tend to use an exclude strategy (Irwin & Naylor, 2009).

The CS, a subset of the AS, includes those brands that the consumer subsequently scrutinizes in order to reach a final decision (e.g. Hauser, 2015; Kardes et al., 1993; Lu & Nayakankuppam, 2011; He et al, 2016). The inclusion of the consideration set in decision-making models improves the prediction of choice (e.g. Jang, Prasad & Ratchford, 2012; Stocchi, Banelis & Wright, 2016; Lleras et al., 2017). Recent studies strengthen the belief that role of the CS in decision-making models is fundamental. For example, Beynon, Moutinho and Veloutsou (2017) studied choice via a utilization of the Dempster-Shafer/Analytic Hierarchy Process method and highlighted that the notion of the CS is vital in this method. According to Kim, Albuquerque and Bronnerberg (2010), the CS is a result of an active evaluation of the alternatives that the consumer is aware. On the contrary, Draganska and Klapper (2011) suggest that the CS is a result of firms' advertising activities. Understanding the factors that determine the exclusion or inclusion of a brand in the CS is important, since inclusion is a prerequisite for final choice (e.g. Hauser, 2015; Hauser & Wernerfelt, 1990; Hutschinson et al., 1994; Kardes et al., 1993). Both external factors, such as characteristics of the purchase situation (e.g. Nedungadi, 1990; Ratneshwar & Shocker, 1991), marketing activities (e.g. Herrmann, Walliser & Kacha, 2010; Van Nierop et al. 2010; Chen & Jiang, 2017; Baxendale, Macdonald & Wilson, 2015), product related uncertainty (Allender & Richards, 2015) and properties of the brand (Kardes & Kalyanaram, 1992; Robinson & Fornell, 1985), as well as consumer factors, such as involvement (e.g. Belonax & Javalgi, 1989; Houston & Rothschild, 1978), memory abstraction (e.g. Lu & Nayakankuppam, 2011), selective focus on a specific brand (Coates, Butler & Berry, 2004; Van Kerckhove, Vermeir & Geuens, 2011), demand for variety (Allende & Richards, 2015), past choices (Romaniuk & Nenycz-Thiel, 2016) and brand commitment (e.g. Desai & Raju, 2007; Erdem & Swait, 2004) have been implicated in the

selection of brands for consideration. Moreover, according to Priester et al. (2004), the consideration of a brand mediates the influence of attitude and attitude strength on consumer choice.

Consumer researchers have investigated various descriptive properties of the CS, including its size, variety (homogeneity vs. heterogeneity) and stability (e.g. Desai & Hoyer, 2000, Mitra, 1995; Rizomyliotis et al., 2017; Akamatsu, 2016; Trinh, 2015). The size of the CS (i.e. the number of brands a consumer considers for purchase), in particular has received extensive research attention, since it provides important information about the competitive advantage of a brand. The importance of the size of the CS lies in the fact that the inclusion of a brand in a small CS, compared to its inclusion in a larger one, reveals a stronger advantage because each brand competes against fewer alternatives and consequently has a larger probability of being chosen. Furthermore, the size of the set has been found to influence post-purchase emotions. According to Su, Chen and Zhao (2008), large CSs lead to high levels of post-purchase regret. The factors that influence the size of the CS have also been extensively researched (e.g. Desai & Hoyer, 2000; Mitra, 1995; Lu & Nayakankuppan, 2011; Desai & Raju, 2007; Pham & Chang, 2010). For instance, brand commitment (Desai & Raju, 2007), extremeness of the options and consumer compromise (Yoo, Park & Kim, 2017), individual processing mindsets (i.e. concrete vs. abstract; Lu & Nayakankuppam, 2011), inclusion vs. exclusion consideration strategies (Irwin & Naylor, 2009; Goodman & Broniarczyk, 2009), regulatory focus (Barone et al., 2017; Pham & Chang, 2010) and its effects (Barone et al., 2017) are only few of the factors that have been identified by recent research to influence the size of the CS.

Hauser and Wernerfelt (1990) summarize the evidence regarding the size of the CS for a large number of product categories. The mean (or median) size ranges from 2 to 8.1 brands with most sets in the range of 3 to 6 brands. This evidence suggests that most CSs are small

and that people tend to consider significantly fewer brands than the total number available. Finally, the nature of the product category seems to have an effect on the size of the CS. For instance, according to Suh (2009), consumers tend to form larger CSs for utilitarian products as opposed to hedonic products.

The size of the consideration set relative to the size of the awareness set

Most relevant studies focus on the absolute size of the CS; in other words, they do not examine whether small or large CSs emerge from small or large awareness sets. Although Howard and Sheth (1969) were the first to suggest that the size of the CS is positively related to the size of the AS (see also Gruca, 1989; Reilly & Parkinson, 1985). A limited number of studies have more specifically focused on the proportional relation between the sizes of the two sets. In an early review of relevant research, Roberts (1989) observed that, in general, the size of the AS is twice or even three times the size of the CS. Crowley and Williams (1991) suggest that the ratio of the size of the CS relative to the size of the AS is approximately 0.37 when the size of the AS is rather large (e.g. for automobiles), and the ratio is 0.63 when the AS is rather small (e.g. TV sets). Similarly, Elliott and Warfield (1993) report ratios of 0.23 to 0.46 across four product categories (athletic footwear, toothpaste, stereo receivers, and potato chips).

Decision-making context and the size of the consideration set

In everyday life, consumers make both memory-based and stimulus-based purchase decisions (Kardes, 1994; Kardes et al., 2004; Lee, 2002; Lynch & Srull, 1982; Posavac, Herzenstein & Sanbonmatsu, 2003; Rottenstreich et al., 2007; Pandelaere & Dewitte, 2006; Spears, Ketron & Ngamsiriudom, 2016). Although this distinction represents an oversimplification, since most decisions involve both retrieved and externally available

information (e.g. Lee, 2002), it facilitates the study of related phenomena. Memory-based and stimulus-based decision types are distinct with no significant relation found between them (DuPlessis 1994; Tulving 1983). Building on the work of Kahneman and Frederick (2002), Rottenstreich, Sood and Brenner (2007) suggest that decisions are more automatic, associative and rapid (termed the System 1 mode of thought) in a memory-based context, whereas decisions are usually slow, deliberate and based on deductive thinking (the System 2 mode of thought) in stimuli-based contexts. Moreover, memory-based decision making is highly depleted from limited processing capacity, while stimulus-based decision making uses less mental resources (Rottenstreich et al., 2007).

In terms of sequential decision making, this distinction implies that the alternative brands that are included in the AS and, consequently, in the CS, can be either present in the purchase environment (stimulus-based) or retrieved from memory (memory-based; Posavac, Herzenstein & Sanbonmatsu, 2003). As opposed to stimulus-based choices where alternatives are available to the consumer, in memory-based choices alternative options first have to be constructed or retrieved from memory (Posavac, Herzenstein & Sanbonmatsu, 2003; Stocchi, Banelis & Wright, 2016). In memory-based CS formation, consumers have to maintain the alternative options in their working memory and thus is associated with greater cognitive loads than stimulus-based choices (Rottenstreich et al., 2007; Drolet et al, 2005). In contrast, under the relevant stimulus-based procedure, there is no need to maintain alternatives in working memory and thus the task of forming the consideration set occurs in a rich (in terms of mental resources) context (Rottenstreich et al., 2007).

Most of the studies on CSs are conducted in either a memory-based or a stimulus-based context (e.g. Barone et al., 2017), which does not allow the making of any comparisons between memory-based and stimulus-based CS formation. Results of limited relevant studies indicate that, in general, stimulus-based CSs are larger than memory-based (Du Plessis, 1994;

Nordfalt et al., 2004; Rottenstreich et al., 2007).

Consumer involvement and the size of the consideration set

Involvement has been the cause of much controversy amongst scholars, given its various conceptualizations and measurements (Andrews, Durvasula & Atkhter, 1990; O'Cass, 2000). In social judgement theory, involvement is defined in terms of the embeddedness of highly involving attitudes in the self-structure (Sherif et al., 1965) and in terms of the way individuals define themselves (Ostrom & Brock, 1968). According to a meta-analysis by Johnson and Eagly (1989), this conceptualization of involvement is relevant to important social aspects of an individual's life and values and is, thus, called value-relevant involvement. In cognitive response theory, Petty and Cacioppo (1979) first defined involvement on the basis of an individual's recognition of the importance and the expected outcome of an issue and suggested that a high level of personal importance significantly increases an individual's level of cognitive processing. Johnson and Eagly (1989) named this type of involvement outcome-relevant involvement.

In the area of consumer behaviour, researchers have focused on consumer involvement. Prior research suggests that consumers' cognitive and behavioural activities vary depending on the level of consumer involvement (e.g. Spears, Ketron & Ngamsiriudom, 2016; Drescher, Roosen, & Marette, 2014; Chaiken, 1980; Petty & Cacioppo, 1979, 1981; Pieters & Verplanken, 1995; Antill, 1984) and thus, involvement has significant influence on consumer behaviour (e.g. Xie & Jia, 2016; Bezencon & Blili, 2011; Drescher, Roosen, & Marette, 2014; Spears, Ketron & Ngamsiriudom, 2016) and specifically on the decision-making process (e.g. Bauer, 2006). It has been consistently related to the size of both the AS (Brisoux & Cheron, 1990; Crowley & Williams, 1991) and the CS (Belonax & Javalgi, 1989; Divine, 1995; Lapersonne *et al.*, 1995; Traylor & Joseph, 1984).

Product involvement and purchase involvement are the most popular types of consumer

involvement in the relevant literature (e.g. Richins *et al.*, 1992; Zaichkowsky, 1985). Product involvement refers to the (relatively stable) perceived importance and personal interest in a product category (e.g. Li & Richards, 2016; Malar et al., 2011). Purchase involvement, on the other hand, is a temporary state and refers to the consumer's perceived importance and personal interest in a specific purchase decision (e.g. Zaichkowsky, 1985; Michaelidou & Dibb, 2008). While these two types of involvement have different antecedents and are conceptually distinct, they have similar behavioural consequences (Houston & Rothschild, 1978; Richins & Bloch, 1986; Richins *et al.*, 1992; Zaichkowsky, 1985). Specifically, consumers that are highly involved either with a product category or a purchase decision, engage in extensive information search and in systematic thinking. This elaborate processing of information enhances knowledge of the product category and of the alternative brands (Greenwald & Leavitt, 1984; Houston & Rothschild, 1978; Zaichkowsky, 1985). Although similar in nature, the behavioural consequences of product involvement tend to be stable over time, while the consequences of purchase involvement tend to wear off once the purchase occasion is concluded (Chung & Zhai (2003). In this study, we employ purchase involvement to meet the objectives of the research and to serve the purposes of the experimental design.

The effect of involvement on product category knowledge as well as on consumer motivation to expend the extra cognitive effort required for an optimal purchase decision implies a positive relation between the level of involvement and the size of the AS and CS. Indeed, research has consistently shown that highly involved consumers hold larger awareness sets (Belonax & Javalgi, 1989; Brisoux & Cheron, 1990; Crowley & Williams, 1991). However, the findings concerning the relation of involvement with the size of the CS are less clear. Some studies indicate that as the level of consumer involvement increases so does the size of the CS (e.g. Divine, 1995; Gronhaug, 1973; Gruca 1989; Lapersonne et al., 1995). Other studies, however, point to a negative relation due to narrower acceptance range (Belonax &

Javalgi, 1989), or to a non-significant link between the two variables (Brisoux & Cheron, 1990). Moreover, Van Kerckhove, Vermeir and Geuens (2011) suggest that involvement may only have a moderating effect on the composition of the CS.

The empirical discrepancies in the involvement/consideration set size relation might be partly explained by the different operationalizations of involvement (Zaichkowsky, 1985) and the inconsistent decision-making contexts (memory- vs. stimulus-based) across studies. Moreover, product and purchase involvement depend on the specific values, interests, and needs of the consumer and therefore are mostly examined as individual factors (e.g. Evans et al., 2009). However, the nature of a product category might also determine the level of individual involvement (e.g. Nagar, 2015). Characteristics of the product category, such as the complexity and risk associated with a purchase decision or the differentiation among the alternative brands, can be instrumental in determining the absolute level of consumer involvement (Zaichkowsky, 1985; Malar et al, 2011). For instance, the level of involvement of a consumer that is highly involved with the purchase of durable technological product might be significantly higher than the level of involvement of a consumer highly involved with the purchase of a low-cost fast-moving consumer good. In this sense, product categories can be classified as more or less involving, on the basis of the mean level of involvement they tend to evoke to consumers. In general, high involvement product categories are associated with larger universal sets and higher levels of perceived product differentiation and decision risk (e.g. Richins & Bloch, 1986). For example, toothpaste and yogurt are considered as low involvement product categories, while jeans and wristwatches usually evoke higher levels of involvement (Bauer, 2006). For high involvement product categories, consumers are willing to put more effort into the decision-making process (Chung & Zhai, 2003) and engage in extensive stimuli processing (Atkinson & Rosenthal, 2014; Liu & Shrum, 2009). It is possible that such differences across product categories might in turn influence the relation between individual

involvement and the size of the consideration set and therefore might also account for the empirical inconsistencies.

The current research

Although studies have established that consumer involvement is positively associated with the size of the awareness sets, the relation of involvement with the size of the consideration set is less clear (e.g. Divine, 1995). The main objective of the present research is to examine the hypothesis that although highly involved consumers are aware of more brands, they also tend to consider for purchase a smaller proportion of the brands they are aware of compared to less-involved consumers. In other words, the focus of the present research is on the size of the CS relative to the size of the corresponding AS.

Highly involved consumers hold larger awareness sets (Brisoux & Cheron, 1990; Crowley & Williams, 1991) and therefore have a larger pool of alternatives from which to select those they will consider for purchase. High involvement may therefore increase the size of the CS indirectly by increasing the size of the AS. At the same time, as the AS size increases consumers are more likely to follow an inclusion strategy vs. an exclusion strategy in their CS formation, which leads to a smaller CS (Irwin & Naylor, 2009). Moreover, high involvement can decrease the size of the CS by making consumers more demanding concerning the performance of the brands they consider for purchase.

According to social judgment theory (Sherif & Hovland, 1961), high involvement with an issue is associated with wider latitudes of rejection and narrower latitudes of acceptance of positions different than the individual's. In the context of consumer behaviour, social judgment theory has been used to explain how demanding consumers are regarding product performance. High involvement decreases the size of the consideration set by narrowing consumer latitudes of brand acceptance (Belonax & Javalgi, 1989).

This dual role of involvement implies that highly involved consumers, despite holding larger awareness sets, also tend to exclude from purchase consideration those brands that do not satisfy the higher standards they set. Although the effect of these parallel mechanisms is more accurately reflected on the relative size of the CS, research on the effects of involvement on sequential decision making has concentrated on the absolute number of considered brands. The aim of the present research was to address this gap. We expected that under high involvement conditions, consumers are aware of more brands, yet they consider for purchase a smaller proportion of these brands. Thus, the following hypothesis was tested:

H1: High levels of involvement decrease the size of the consideration set relative to the size of the awareness set.

We also expected that this negative effect of involvement on the relative size of the consideration set would be due to its effect on consumers' selectivity. In order to explore this, we looked into consumers' alternative evaluations. Specifically, according to social judgment theory (Sherif & Hovland, 1961), when individuals are highly involved with a specific concept or idea they hold a limited latitude of acceptance. Latitude of acceptance is a person's own stand towards a specific issue and the other positions that he or she finds acceptable (Johnson & Eagly, 1989). In consumer decision making, this can be translated as a consumer's acceptable performance range in a specific product category or purchase when constructing their CSs (Rothchild & Houston, 1977; Belonax & Javalgi, 1989). In other words, we expect highly involved consumers, who have limited latitudes of acceptance, to accept for purchase consideration only those brands from their awareness sets that are highly evaluated.

H2: Highly involved consumers include in their consideration sets more positively evaluated

brands compared to less-involved consumers.

Crowley and Williams (1991), while looking into the findings of seven previous studies on consideration and choice, observed that CSs were larger when formed with aided recall (stimuli-based) rather than unaided recall (memory based). Memory-based choices require the recollection of alternatives directly from long-term memory. The process of recalling alternatives requires much effort and is restricted due to limited processing capacity (e.g. Miller, 1956), and engages more mental resources than stimuli-based choices where alternatives are available in the external environment (e.g. Lynch and Srull 1982; Rottenstreich et al. 2007; Kahneman and Frederick, 2002). Moreover, while an individual is aiming to recall one additional alternative the other alternatives need to be maintained in the working memory, making the recall process restrict even further the available mental resources. Finally, memory-based decisions are based on serial recall inferences (i.e. retrieval of an alternative based on other similar recalled alternatives; Alba & Chattopadhyay 1985; Romaniuk, 2013; Romaniuk& Nenycz-Thiel, 2013), which results in similar alternatives being retrieved.

H3: In memory-based decisions the size of the consideration set relative to the size of the awareness set is higher as opposed to stimuli-based choices.

In stimuli-based choices where alternatives are already available and there is no need to maintain them in short-term memory, mental resources are available to be used in the recognition and processing of additional alternatives. Memory-based choice is following the System 1 mode of thought (Rottenstreich et al. 2007), which tends to be automatic and rapid, while stimuli-based choices follow System 2, which is slow and controlled. Taking all these points into account, it is expected that the recalled awareness set contains fewer alternatives

and thus does not allow consumers to be as selective as in stimuli-based decisions when forming their CSs.

Study 1

Introduction

We sought to test in an experimental setting the hypothesized effect of involvement and decision-making context on the relative size of the consideration set (H1; H3). In order to test the focal relationship without the possible confounds of pre-existing beliefs and attitudes, we focused here on a fictitious product category and on fictitious brands. A second objective of the study was to examine the proposed explanation for the effect of involvement on the relative size of the consideration set by including brand evaluation measures. Specifically, we examined whether highly involved consumers, compared to less-involved consumers, tended to include in their CSs more positively evaluated brands (H2). Moreover, a manipulation of the decision-making context was included in the study in order to test for possible moderating effects.

Methods

Participants and design. A total of 119 undergraduate students (31 male, M_{age} = 20.91, *SD* = 1.55) were randomly assigned to the conditions of a 2 × 2 (purchase involvement – high or low × decision-making context – memory- or stimulus-based), between-subjects experimental design

Product selection. Digital cameras with an instant photo print function served as the fictitious product category. A pre-test was conducted in order to create the experimental material and specifically to select brand names and product attributes (*N* = 28). The pre-test measured the importance of 26 digital camera attributes on a nine-point scale and assessed 44

fictitious brand names on the basis of likeability, suitability and recall rate, each on nine-point scales. Four attributes with the highest importance means (*M*-image resolution = 8.21, *STD* = .83; *M*-price = 7.32, *STD* = 1.60; *M*-printing quality = 7.75, *STD* = 1.67; *M*-printing speed = 6.79, *STD* = 1.91) and eight brand names with similar suitability, likeability and recall combinations were selected (i.e. I-Tec, Cobra, Cool-Cam, EarthCam, Genius, IT Works, Maxell, Premier) to reduce compound effects from the brand name. All brand names chosen had 7–8 recalls, were evaluated in average from 5.28 to 6.56 for likeability and from 4.73 to 6.64 for suitability. STDs were also taken into account.

Procedure and manipulations. Purchase involvement was manipulated by means of experimental instructions. Low-involvement participants were informed that the product had been launched in a foreign market and would not be marketed in their local market. In contrast, high-involvement participants were informed that the product would soon be launched in their local market. They were also informed that those participants who followed a valid and well executed decision-making process would enter a draw to win a digital camera. Following the involvement manipulation, participants were presented with a short description of the new product category and were exposed to information concerning the attributes of the eight alternative brands. The information was presented in a table format with the respective score of each brand on each of the four selected attributes.

Immediately after the presentation of the experimental material, participants were asked to complete a 30-minute filler task. Subsequently, they were asked to form their awareness sets. Participants in the stimulus-based condition were presented with a list including the experimental and several other brands and were asked to indicate which brands they could recognize. Participants in the memory-based condition were simply asked to recall as many brands as they could. Subsequently, all participants were asked to form their CSs. Participants were presented with the following prompt: ‘Imagine that you need to buy a digital camera.

Which brands would you consider for purchase?' Finally, participants were asked to evaluate each brand they had included in their CS. At the end of the procedure, the aim and the experimental manipulations were explained to participants.

Measures and manipulation check. The *size of the awareness set* (AS size) was operationalized as the number of brands retrieved by each participant. Similarly, the number of brands included in the consideration set was used as an index of the absolute *size of the consideration set* (CS size). The CS size/AS size ratio was used as an index of the *relative size of the consideration set.*

Participants were also asked to evaluate each brand included in their consideration set on a seven-point scale anchored by 'I don't like it at all' (1) and 'I like it very much' (7). Moreover, the mean of four seven-point scales was used to check the effectiveness of the involvement manipulation (Cronbach's alpha = 0.80). Specifically, participants were asked to rate the perceived personal relevance of the category, the personal importance of making the right purchase decision in the category, their personal interest in judging the quality of the brands in the category and how carefully they had formed their consideration set (Park and Hastak, 1994).

Study 1 Results and Discussion

Mean CSsize /AS size was 0.60 (*SD* = .26), across conditions (Table 1). Consistent with the experimental manipulation, participants in the high involvement condition were more involved with the purchase decision (*M*= 5.34, *SD* = 1.27) than participants in the low involvement condition (*M* = 4.17, *SD* = 1.28; *t*(1,117) = - 4.31, *p*< 0.01).

Table 1. Means (and *SD*s) of AS size, CS size, CS size/ AS size and CS brand evaluation (Study 1)

	Memory-based			Stimulus-based			Total		
	HI	LI	total	HI	LI	total	HI	LI	total
CS size/ AS size	0.62 (0.27)	0.81 (0.22)	0.71 (0.26)	0.35 (0.14)	0.66 (0.19)	0.51 (0.23)	0.48 (0.25)	0.73 (0.22)	0.60 (0.26)
CS brand evaluation	5.23 (0.87)	4.88 (1.03)	5.06 (0.96)	5.60 (0.91)	5.11 (1.05)	5.34 (1.01)	5.42 (0.90)	5.00 (1.03)	5.21 (0.99)

HI = high involvement, LI = low involvement

In line with H1, involvement had a significant main effect on the relative size of the CS. Specifically, as can be seen in Table 1, participants in the high-involvement condition included in their CS a smaller proportion of the brands they were aware of compared to participants in the low-involvement condition ($F(1,114) = 41.75$, $p < 0.001$). As would be expected, the decision-making context also had a significant main effect on CS size/AS size, providing support for H3. Participants in the stimulus-based context included in their CS a smaller proportion of the brands they were aware of compared to participants in the memory-based context ($F(1,114) = 29.20$, $p < 0.001$). There was no significant interaction between the two variables.

Furthermore, as can be seen in Table 1, the average evaluation of brands considered for purchase was significantly more positive in the high- than in the low-involvement condition ($F(1,115) = 5.64$, $p < 0.05$). This finding supports H2 and indicates that as involvement increases consumers tend to become more demanding and to consider for purchase the more positively evaluated brands compared to less-involved consumers. This is in line with social judgment theory, which suggests that highly involved consumers hold narrow latitudes of acceptance (Sherif & Hovland, 1961). The decision-making context did not have a significant effect on mean brand evaluation and there was no significant interaction between the two independent variables.

Study2

Introduction

The results of the previous study suggested that highly involved consumers, compared to less involved consumers, are aware of more brands yet they consider for purchase a smaller proportion of more positively evaluated brands. In our second study, we sought to replicate and extend these findings. Specifically, we measured and compared the evaluation of all brands

included in participants' awareness sets. In addition, we sought to integrate the findings of the previous study by investigating the effects of involvement and decision-making context as well as product category involvement on the CS size /AS size. We used th product categories jeans (high involvement) and bottled water (low involvement).

Methods

Participants and design. One hundred and four undergraduate students (43 male, M_{age} = 21.93, *SD* = 2.92) were randomly assigned to the conditions of a 2 × 2 × 2 (purchase involvement – high or low × decision-making context – memory- or stimulus-based × product category – high or low involvement), mixed experimental design, with product category as a within-subjects factor.

Product selection and procedure. The product categories of jeans (high involvement, *M* = 5.68, *STD* = 1.66) and bottled water (low involvement, *M* = 271, *STD* = 1.94) were selected on the basis of two pre-tests (N_1= 30 and N_2= 28). The first pre-test measured the product involvement of 36 product categories on a seven-point scale and the second pre-test tested on a seven-point scale the appropriateness of involvement manipulation for the two chosen product categories, i.e. jeans and bottled water. The universal set of each category included 44 (jeans) and 22 (bottled water) brands. The study was questionnaire-based. Data were collected in small group sessions. The questionnaire comprised two identical parts, one for each product category. All participants answered both parts. The order of the parts in the questionnaires was randomized in order to control for potential spillover effects from one product category to the other. In each part, participants were first asked to report their level of purchase involvement and were then asked to either 'list as many brands as they could recall' (memory-based condition) or to 'recognize as many brands as they could from a given list' (stimuli-based condition) in each category. Immediately after constructing their awareness sets, participants

were presented with the following prompt: 'Imagine that you need to buy a [pair of jeans/bottle of water]. Which brands would you consider for purchase?' A manipulation of purchase involvement, as well as evaluative measures of all brands included in participants' awareness sets was also included. At the end of the procedure, participants were debriefed and dismissed.

Manipulation. Purchase involvement was manipulated by means of experimental instructions. Participants in the low-involvement condition were informed that after the completion of the research they would enter a drawing to win a pen. In contrast, participants in the high involvement condition were informed that those participants who would follow a valid decision-making process and reach the correct purchase decisions would enter a drawing to win one (or a set, in the case of bottled water) of the brands they had included in their CSs.

Measures and manipulation check. CS size/AS size was assessed in a manner similar to that of Study 1. Brand evaluations and the manipulation check of involvement (Cronbach's alpha = 0.80) were based on the same items used in Study 1.

Study 2 Results and Discussion

Tables 2 and 3 present descriptive statistics of the focal variables for the two product categories. Mean CS size/AS size was smaller in the high involvement (jeans) than in the low involvement (bottled water) category ($t(103) = 7.14$, $p < .01$). The manipulation of involvement was successful in both the jeans (Mhigh involvement = 6.12 (SD = .92) vs. Mlow involvement = 5.65 (SD = 1.19); $t(102) = -2.27$, $p < 0.05$) and the bottled water category (Mhigh involvement = 4.96 (SD = 1.25) vs. Mlow involvement = 4.35 (SD = 1.47); $t(102) = -2.24$, $p < 0.05$).

Table 2. Means (and *SD*s) of AS size, CS size, CS size/ AS size, CS brand evaluation, AS brand evaluation and evaluation difference for the jeans category (Study 2)

	Memory-based			Stimulus-based			Total		
	HI	LI	total	HI	LI	total	HI	LI	total
CS size/ AS size	0.53 (0.18)	0.70 (0.28)	0.62 (0.25)	0.24 (0.12)	0.39 (0.35)	0.32 (0.27)	0.38 (0.21)	0.55 (0.35)	0.47 (0.30)
CS brand evaluation	5.98 (0.78)	5.14 (1.31)	5.53 (1.16)	5.89 (0.76)	5.42 (0.94)	5.66 (0.88)	5.93 (0.76)	5.28 (1.14)	5.60 (1.03)
AS brand evaluation	4.79 (0.79)	4.84 (0.87)	4.82 (0.82)	4.58 (1.02)	4.60 (1.01)	4.49 (1.01)	4.68 (0.91)	4.72 (0.94)	4.70 (0.92)
CS-AS brand evaluation difference	1.18 (0.92)	0.30 (1.33)	0.72 (1.23)	1.28 (1.31)	0.83 (0.94)	1.05 (1.15)	1.24 (1.12)	0.56 (1.18)	0.88 (1.20)

HI = high involvement, LI = low involvement

Table 3. Means (and *SD*s) of AS size, CS size, CS size/ AS size, CS brand evaluation, AS brand evaluation and evaluation difference the bottled water category (Study 2)

	Memory-based			Stimulus-based			Total		
	HI	LI	total	HI	LI	total	HI	LI	total
CS size/ AS size	0.71 (0.23)	0.85 (0.23)	0.78 (0.24)	0.49 (0.20)	0.72 (0.28)	0.60 (0.27)	0.60 (0.24)	0.66 (0.33)	0.69 (0.27)
CS brand evaluation	5.94 (0.71)	5.46 (0.92)	5.69 (0.85)	5.68 (0.85)	5.20 (0.95)	5.39 (0.91)	5.79 (0.80)	5.33 (0.94)	5.54 (0.89)
AS brand evaluation	4.69 (1.06)	5.32 (0.85)	5.01 (1.00)	4.96 (1.05)	4.88 (1.03)	4.92 (1.03)	4.83 (1.05)	5.10 (0.96)	4.96 (1.01)
CS-AS brand evaluation difference	1.25 (1.08)	0.15 (0.76)	0.68 (1.07)	0.62 (1.20)	0.32 (1.05)	0.47 (1.13)	0.92 (1.17)	0.23 (0.91)	0.57 (1.10)

HI = high involvement, LI = low involvement

Consistent with the findings of the previous study, involvement had a negative effect on CS size/AS size ($F(1,100) = 21.85$, $p < 0.01$). Specifically, participants included in their consideration set a smaller proportion of the brands they were aware of in the high- ($M = 0.49$, $SD = 0.25$) than in the low-involvement condition ($M = 0.66$, $SD = 0.33$). This finding further corroborates H1. Moreover, the influence of product category was explored with repeated measures analysis, and a main effect on CS size/AS size emerged ($F(1,100) = 42.74$, $p < 0.01$). Specifically, as can be seen in Tables 2 and 3, in the high-involvement category participants were more selective ($M_{jeans} = 0.47$) compared to participants in the low-involvement category ($M_{water} = 0.69$). In addition, there was a significant main effect of decision-making context. In particular, as suggested by H3, CS size/AS size was larger in the memory-based ($M = 0.71$, $SD = 0.25$) than in the stimulus-based context ($M = 0.51$, $SD = 0.30$; $F(1,100) = 42.74$, $p < 0.01$). No interaction effects emerged between the three independent variables.

Generally, these findings further corroborate the hypothesized effect of involvement on the relative size of the CS (H1) and indicate that as involvement increases, consumers tend to consider for purchase a smaller proportion of retrieved brands. In addition, the results indicate that the relative size of the CS is also smaller in the case of high-involvement product categories as well as in the case of stimulus-based decisions. The effect of these variables appears to be additive. In other words, one should expect the CS to have the smallest relative size for consumers who are highly involved with purchase decisions for highly involving product categories and for those who are making stimuli-based decisions.

Consistent with H2 and in line with the findings of Study 1, the mean evaluation of brands included in the consideration set of high-involvement participants ($M = 5.84$, $SD = 0.78$) was more positive compared to that of low-involvement participants ($M = 5.30$, $SD = 0.104$; $F(1,99) = 14.50$, $p < 0.01$). The decision-making context and the nature of the product category did not have a significant effect on this variable. Moreover, there were no interactions

between the three independent variables.

In order to further explore the hypothesized effect of involvement on the average evaluation of brands considered for purchase, we also calculated for each participant the difference between the average evaluation of considered brands and the average evaluation of (all) the brands included in his/her awareness set. Involvement was found to have a significant positive effect on this difference ($F(1,98) = 15.17$, $p < 0.01$). The average difference between the evaluation of retrieved and considered brands was higher for high-involvement ($M = 1.07$, $SD = 1.15$) than for low-involvement participants ($M = 0.40$, $SD = 1.06$). It should be noted that there was no significant difference in the average evaluation of the brands included in the awareness sets of high- and low-involvement participants. Moreover, the average difference between the evaluation of considered and retrieved brands was higher in the high-involvement ($M_{jeans} = .88$, $SD = 1.20$) than in the low-involvement category ($M_{water} = 0.55$, $SD = 1.09$; $F(1,98) = 6.37$, $p < 0.05$). No other main effects or interactions emerged.

Overall, the results indicate that consumers in high purchase involvement conditions and in high-involvement product categories have narrower latitudes of acceptance, making them more selective, and thus they tend to include in their CSs those brands they evaluate most positively.

Discussion

The main focus of this research was to explore the effect of involvement on the relative size of the consideration set (CS size/AS size). Overall, our findings provide robust support for the hypothesized negative effect of involvement on the relative size of the CS and indicate that as involvement increases consumers tend to consider for purchase a smaller proportion of retrieved brands (H1; Studies 1, 2).

High involvement enhances product category knowledge, and hence broadens

awareness sets (e.g. Brisoux & Cheron, 1990). It also increases consumer processing motivation and effort expended on the consideration of alternative brands when making a choice (e.g. Chakravarti & Janiszewski, 2003). It would be reasonable therefore to assume that high involvement increases the number of brands selected from consumer awareness sets for purchase consideration. Our findings, however, suggest that a competing and presumably stronger mechanism might be in operation, limiting the proportion of retrieved brands that are subsequently scrutinized. Specifically, high involvement seems to narrow consumer latitudes of acceptance and to make them select only their most positively evaluated brands for purchase consideration. Consistent with H2, the average evaluation of brands considered for purchase by high-involvement participants was higher than that of low-involvement participants (Studies 1 and 2). In addition, the mean evaluation of brands included in the CS relative to the mean evaluation of brands included in the AS was higher in the case of high-involvement participants compared to that of low-involvement participants (Study 2).

The relative size of the CS was also found to be smaller in the case of the high-involvement product category (Studies 2), indicating that, in addition to individual involvement, the level of involvement implicated by the nature of a product category also plays a role in determining the probability of purchase consideration of a brand. Consumers seem to be more selective in the case of high-involvement product categories. These findings provide support for the social judgment theory, as it seems that consumers have narrower latitudes of acceptance in high-involvement conditions.

It is further interesting to note the significant effect of decision-making context on CS size/AS size (H3). This ratio was found to be larger in memory- than in stimulus-based contexts, indicating that consumers include a larger proportion of the retrieved brands in their consideration set in the former case (Studies 1 and 2). Awareness sets are smaller in memory- than in stimulus-based decisions, since they involve a recall vs. a recognition process (Crowley

& Williams, 1991; Rottenstreich et al., 2007). Consumers making memory-based purchase decisions have therefore a limited number of alternatives to choose from and thus cannot be as selective on which brands to consider for purchase as in the case of on-line decisions.

The demonstrated negative effect of involvement on the relative size of the CS points towards different marketing methods in the case of purchase decisions made under different levels of involvement. In the case of low-involvement decisions, consumers hold wider latitudes of acceptance and, therefore, consider for purchase a larger proportion of the brands they are aware of. Thus, marketing efforts should focus on the first stage of sequential decision making and specifically on enhancing brand awareness and accessibility and thus on increasing the probability of brand inclusion in consumer awareness sets. Such efforts could include the use of reminder and point-of purchase advertising. Marketing efforts could also focus on strengthening the association of a brand with a specific consumption occasion or need that it satisfies (Desai & Hoyer, 2000). In contrast, in the case of high-involvement purchase decisions, because consumers hold wider latitudes of rejection and exclude from consideration a larger proportion of retrieved brands, marketing efforts should also focus on subsequent stages of the decision-making process and specifically on enhancing brand attitudes. Such efforts include providing strong arguments and clear reasons for brand preference (e.g. through argumentative advertising copy), since high involvement also motivates consumers to process product related information when forming their attitudes (Petty & Cacioppo, 1986).

The use of a limited number of product categories restricts the generalizability of our findings. Future research should investigate the relation of consumer involvement with the relative size of the consideration set in different product categories, preferably in a field setting. Future studies can also include manipulations of brand evaluations in order to provide a more robust test of the proposed ‘latitude of acceptance’ interpretation of the negative effect of involvement on the relative size of the consideration set. What’s more, choices resulting from

substantial inter-brand comparisons are susceptible to the nature of evaluations (attribute- vs alternative-based), and this is also an interesting parameter to consider (Jang and Yoon, 2016). It goes without saying that contemporary research in the field should also include a discussion of how new technologies may alter consumers' perceptions of being in control of their choices. Choice sets are increasingly depending on the behavioural targeting, which, in turn, relies on big data. Such processes produce content that is highly customized and can, thus, influence customers' consideration set formation. Notwithstanding these limitations, the present research further corroborates the significance of involvement as a determining factor in consumer choice processes and demonstrates the importance of the relative size of the CS as an additional approach to the study of sequential decision making.

Notwithstanding these limitations, the present research further corroborates the significance of involvement as a determining factor in consumer choice processes and demonstrates the importance of the relative size of the CS as an additional approach to the study of sequential decision making.

References

Ajzen, I., and Fishbein, M. (1977). Attitude-behaviour relations: theoretical analysis and review of empirical research. *Psychological Bulletin, 89,* 888-918.

Akamatsu, N. (2016). A New Viewpoint on the Structure of the Consideration Set and its Change. In *Looking Forward, Looking Back: Drawing on the Past to Shape the Future of Marketing* (895-895). Springer, Cham.

Alba, J.W. and Chattopadhyay, A. (1985). Effects of context and part-category cues on recall of competing bands, *Journal of Marketing Research, 22*(3), 340-349. doi: 10.2307/3151430

Allender, W. J., & Richards, T. J. (2015). Demand for Variety and Product Uncertainty: A Structural Model of Consideration Set Formation, *SSRN*, http://dx.doi.org/10.2139/ssrn.2596873

Atkinson, L., and Rosenthal, S. (2014). Signaling the green sell: the influence of eco-label source, argument specificity, and product involvement on consumer trust. *Journal of Advertising*, *43*(1), 33-45.

Barone, M. J., Fedorikhin, A., and Hansen, D. E. (2017). The influence of positive affect on consideration set formation in memory-based choice. *Marketing Letters*, *28*(1), pp. 59-69.

Barroso A. and Llobet, G. (2012). Advertising and consumer awareness of new, differentiated products. *Journal of Marketing Research, 49* (Decemeber), 773-792, doi:10.1509/jmr.11.0045

Bauer, H, H., Sauer, N. E. And Becker, C. (2006). Investigating the relationshio between product involvement and decision making styles. *Journal of Consumer Behaviour, 5,* 342-354., DOI: 10.1002/cb.185

Baxendale, S., Macdonald, E. K., and Wilson, H. N. (2015). The impact of different touchpoints on brand consideration. *Journal of Retailing*, *91*(2), 235-253.

Belonax, J.J. and Javalgi R.G. (1989). The influence of involvement and product class quality on consumer choice sets, *Journal of the Academy of Marketing Science, 17* (3), 209-216. doi: 10.1007/BF02729812

Bettman, J. R., & Park, C. W. (1980). Effects of prior knowledge and experience and phase of the choice process on consumer decision processes: A protocol analysis. *Journal Of Consumer Research*, *7*(3), 234-248.

Beynon, M. J., Moutinho, L., and Veloutsou, C. (2018). An Exposition of the Role of Consideration Sets in a DS/AHP Analysis of Consumer Choice. In *Innovative Research Methodologies in Management* (pp. 237-274). Palgrave Macmillan, Cham.

Bezencon, V. and Blili, S. (2011). Segmenting the market through the determinants of involvement: The case of fair trade. *Psychology & Marketing, 28* (7) 682-708. doi: 10.1002/mar.20407

Bloch, P. H., & Richins, M. L. (1983). A theoretical model for the study of product importance perceptions. *The Journal of Marketing*, 69-81.

Brasel, S. A. (2008). Feast or famine: how expectations polarize judgements of ambitious alternative set sizes. *Advances in Consumer Research, 35*(1), 818. *http://acrwebsite.org/volumes/13556/volumes/v35/NA-35*

Bremer, L., Heitmann, M. & Schreiner, T. F. (2016). When and how to infer heuristic consideration set rules of consumers, *International Journal of Research in Marketing*, doi: 10.1016/j.ijresmar.2016.10.001

Brisoux, J.E. and Cheron, E.J. (1990). Brand categorization and product involvement, *Advances in Consumer Research, 17,* 101-9.

http://www.vancouver.wsu.edu/acr/home.htm

Brizoux, J. E., and Laroche, M. (1980). A proposed consumer strategy of simplification for categorizing brands. In J. D. Summey, & R.D. Taylor (Eds.), *Evolved marketing thought for 1980, proceedings of the annual meeting of the Southern Marketing Association* (pp. 112-114). Carbondale. IL: Southern Marketing Association.

Chakravarti, A. and Janiszewski, C. (2003). The influence of macro-level motives on consideration set composition in novel purchase situations, *Journal of Consumer Research, 30* (2), 244-258. doi: 10.1086/376803

Chen, R., and Jiang, H. (2017). Capacitated assortment and price optimization for customers with disjoint consideration sets. *Operations Research Letters, 45*(2), 170-174.

Chung H. and Zhai, X. (2003). Humour effect on memory and attitude: The moderating role of product involvement. *International Journal of Advertising, 22*(1), 117-144. doi:10.1080/02650487.2003.11072842

Coates, S. L., Butler, L. T, and Berry, D. C. (2004). Implicit memory: A prime example for brand consideration and choice. Applied Cognitive Psychology, 18, 1195-1211. doi: 10.1002/acp.1044

Crowley, A.E. and Williams, J.H. (1991). An information theoretic approach to understanding the consideration set/awareness set proportion, *Advances in Consumer Research, 18*, 780-787. http://www.vancouver.wsu.edu/acr/home.htm

Desai, K.K. and Hoyer, W.D. (2000). Descriptive characteristics of memory-based consideration sets: Influence of usage occasion frequency and usage location familiarity, *Journal of Consumer Research, 27* (3), 309-323. doi: 10.1086/317587

Desai, K.K. and Raju, S. (2007). Adverse influence of brand commitment on consideration of and preference for competing brands, *Psychology and Marketing, 24* (7), 595-614. doi: 10.1002/mar.20175

Divine, R.L. (1995). The influence of price on the relationship between involvement and consideration set size, *Marketing Letters, 6* (4), 309-319. doi:10.1007/BF0099619

Draganska, M. and Klapper, D. (2011). Choice set heterogeneity and the role of advertising: An analysis woth micro and macro data. *Journal of Marketing Research, 48* (August), 653-669. doi:10.1509/jmkr.48.4.653

Drescher, L. S., Roosen, J., and Marette, S. (2014). The effects of traffic light labels and involvement on consumer choices for food and financial products. *International Journal of Consumer Studies*, *38*(3), 217-227.

Drolet, A., Griffin D., Luce, M. F. And Simonson I. (2005). The influence of cognitive load on emotion-based trade-off avoidance. *Journal of Consumer Research, 31*(1), 63-77.

Du Plessis, E. (1994). Recognition versus recall, *Journal of Advertising Research, 34* (3), *7*5-91. http://www.journalofadvertisingresearch.com/

Elliott, M.T. and Warfield, A.E. (1993). Do market mavens categorize brands differently?, *Advances in Consumer Research, 20*, 202-208. http://www.vancouver.wsu.edu/acr/home.htm

Engel, F., Kollat, T. D., and Blackwell, D. R. (1968). *Consumer behaviour*. New York: Holt, Rinerhalt & Winston Inc.

Erdem, T. and Swait J. (2004). Brand credibility, brand consideration and choice, *Journal of Consumer Research, 31*(1), 191-198. doi: 10.1086/383434

Evans, M., Jamal, A., and Foxall, G. (2009). Consumer Behaviour (2nd ed.). Chichester: John Wiley and Sons Ltd.

Festinger, L. (1957). A theory of cognitive dissonance Evanston. *IL: Row, Peterson, 1*.

Gensch, D. H. (1987). A two stage disaggregate attribute choice model. *Marketing Science, 6*(3), 223-231.

Gilovich, T., Griffin, D., & Kahneman, D. (Eds.), (2002). Heuristics and Biases: The Psychology of Human Judgment. Cambridge University Press, Cambridge, UK, New York.

Gigerenzer, G., & Selton, R. (2001). Bounded rationality. London: MIT Press.

Goodman, J. K. and Broniarczyk, S. (2009). Screening from large assortments: the use of include and exclude strategies in consideration set construction. *Advances in Consumer Research*, 36 (1), 215-216, http://acrwebsite.org/volumes/14608/volumes/v36/NA-36

Greenwald, A.G. and Leavitt, C. (1984). Audience involvement in advertising: Four levels, *Journal of Consumer Research, 11*(1), 581- 592. doi:10.1086/208994

Hauser, J. R. (2014). Consideration-set heuristics. *Journal of Business Research, 67*(8), 1688-1699.

Hauser, J.R. and Wernerfelt, B. (1990). An evaluation cost model of consideration sets, *Journal of Consumer Research, 16* (4), 393-408. doi: 10.1086/209225

Hauser, J.R., Toubia, O., Evgeniou, T., Befurt, R. and Dzyabura, D. (2010). Disjunctions of conjunctions, cognitive simplicity, and consideration sets, *Journal of Marketing Research, 47* (3), 485-496. doi: 10.1509/jmkr.47.3.485

He, Y., Chen, Q., Tam, L. and Lee, R. P. (2016). Managing sub-branding affect transfer: the role of consideration set size and brand loyalty, *Marketing Letters*, 27 (1), 103–113, doi: 10.1007/s11002-014-9317-y

Herrmann, J., Walliser, B. and Kacha, M. (2010). Sport sponsorship effects on spectators' consideration sets: Impact with and without brand-event link recognition. *Advances in Consumer Research, 37*, 550-552.

Houston, M.J. and Rothschild, M.L. (1978). Conceptual and methodological perspectives on

involvement. In Jain S. (Ed.), *Research Frontiers In Marketing: Dialogues and Directions*, (pp. 184-287). Chicago, IL: American Marketing Association.

Howard, J. A., and Sheth, J. N. (1969). *The theory of buyer behavior*. New York: John Wiley.

Howard, J.A. and Sheth, J.N. (1969), *The Theory of Buyer Behavior*. New York: John Wiley.

http://acrwebsite.org/volumes/15216/volumes/v37/NA-37

Hoyer, W. (1984). An examination of consumer decision making for a common repeat purchase product. *Journal of consumer research*, 11(3), 822-829.

Hutschinson, J.W., Kalyan R. and Murali K.M. (1994). Finding choice alternatives in memory: probability models of brand name recall, *Journal of Marketing Research*, *31* (4), 441-461. doi: 10.2307/3151875

Irwin, J. R. and Naylor, R. W. (2009). Ethical decisions and response mode compatibility: weighting of ethical attributes in consideration sets formed by excluding versus including product alternatives. *Journal of Marketing Research*, *46*(April), 234-246. doi:10.1509/jmkr.46.2.234

Jang, J.M., Yoon, S.O. (2016). The effect of attribute-based and alternative-based processing on consumer choice in context. Mark Lett 27, 511–524.

Jaewon Yoo, Hyunsik Park and Wonjoon Kim (2017) Compromise effect and consideration set size in consumer decision-making, *Applied Economics Letters*, 25(8), 513-517, DOI: 10.1080/13504851.2017.1340567

Jang, S., Prasad, A. and Ratchford, B. T. (2012). How consumers use product reviews in the purchase decision process. *Marketing Letters*, *23*, 825-238. doi: 10.1007/s11002-012-9191-4

Johnson, E. J., and Paye, J. W. (1985). Effort and accuracy in choice. *Management Science*, *31*(4), 395-414.

Kardes, F.R. (1994). Consumer judgment and decision processes. In Wyer, Jr. R.S. and Srull, T.K. (Eds.), *Handbook of Social Cognition, Vol. 2: Applications*, (pp. 399-466). Hillsdale, NJ: Lawrence Erlbaum.

Kardes, F.R. and Kalyanaram, G. (1992). Order-of-entry effects on consumer memory and judgment: An information integration perspective, *Journal of Marketing Research*, *29*(3), 343-357. doi:10.2307/3172744

Kardes, F.R., Kalyanaram, C., Chandrashekaran, M. and Dornoff, R.J. (1993). Brand retrieval, consideration set composition, consumer choice, and the pioneering advantage, *Journal of Consumer Research*, *20*(1), *6*2-75. doi: 10.1086/209333

Kardes, F.R., Posavac, S.S. and Cronley, M.L. (2004). Consumer inference: A review of processes, bases, and judgment contexts, *Journal of Consumer Psychology*, *14*(3), 230-256. doi:10.1207/s15327663jcp1403_6

Kim, Jun B. Albuquerque, P. and Bronnerberg, B. J. (2010). Online demand under limited consumer search. *Marketing Science, 29* (6), 822-829. doi:10.1287/mksc.1100.0574

Lapersonne, E., Gilles L. and Le Goff, J. (1995). Consideration sets of size one: An empirical investigation of automobile industry, *International Journal of Research in Marketing*, *12* (1), 55-66. doi:10.1016/0167-8116(95)00005-M

Lee, A.Y. (2002). Effects of implicit memory on memory-based versus stimulus-based brand choice, *Journal of Marketing Research, 39*(4), 440-454. doi:10.1509/jmkr.39.4.440.19119

Levin, I. P., Jasper, J. D., & Forbes, W. S. (1998). Choosing versus rejecting options at different stages of decision making. *Journal of Behavioral Decision Making*, 11(3), 193-210.

Li, K., and Richards, J. I. (2016). The Effects of Narrative Versus Argument Advertising With The Moderation Of Product Category and Product Involvement. In *American Academy*

of Advertising. Conference. Proceedings (January) (p. 181). American Academy of Advertising.

Liu, Yuping, and L.J. Shrum (2009), A Dual-Process Model of Interactivity Effects, *Journal of Advertising*, 38 (2), 53–68

Lleras, J. S., Masatlioglu, Y., Nakajima, D., and Ozbay, E. Y. (2017). When more is less: Limited consideration. *Journal of Economic Theory*, *170*, 70-85.

Lu, F. and Nayakankuppam, D. (2011) The effects of mindset abstraction on memory-based consideration set formation. *Advances in Consumer Research, 39*, 643-644, http://www.acrwebsite.org/volumes/1010172/volumes/v39/NA-39

Lynch, J.G. and Srull, T.K. (1982). Memory and attentional factors in consumer choice: Concepts and research methods, *Journal of Consumer Research*, *9*(1), 18-37. doi:10.1086/208893

Malar, L., Krohmer, H., Hoyer, W. D., and Nyffenegger B. (2011). Emotional brand attachment and brand personality: the relative importance of the actual and ideal self. *Journal of Marketing 75*(4), 35-52, doi:10.1509/jmkg.75.4.35

Manrai, A. K., and Andrews, R. L. (1994). Two-stage discrete choice models for scanner panel data: An assessment of process and assumptions. *European Journal of Operational Research, 111*(2), 193-215.

Michaelidou, N. and Dipp, S. (2008). Consumer involvement: a new perspective. The Marketing Review, 8(1), pp. 83-99. doi:10.1362/146934708X290403

Mitra, A. (1995). Advertising and the stability of consideration sets over multiple purchase occasions, *International Journal of Research in Marketing, 12*(1), 81-94. doi:10.1016/0167-8116(95)00007-O

Nagar, K. (2015). Modeling the effects of Green advertising on brand image: Investigating the moderating effects of product involvement using structural equation. *Journal of Global Marketing*, *28*(3-5), 152-171

Narayana, C. L., and Markin, R. J. (1975). Consumer behaviour and product performance: An alternative conceptualization. *Journal of Marketing*, *39*, 1-6.

Narayana, C.L. and Markin, R.J. (1975). Consumer behavior and product performance: An alternative conceptualization, *Journal of Marketing*, *39*(4), 1-6. doi: 10.2307/1250589

Nedungadi, P. (1990). Recall and consumer consideration sets: influencing choice without altering brand evaluations, *Journal of Consumer Research*, *17*(3), 263-276. doi:10.1086/208556

Nicosia, F. M. (1966). *Consumer decision processes; marketing and advertising implications*. Englewood Cliffs, NJ: Prentice-Hall.

Nordfalt, J., Hjalmarson, H., Ohman N. and Julander, C.R. (2004). Measuring consideration sets through recall or recognition: A comparative Study, *Journal of Retailing and Consumer Services*, *11*(5), 321-330. doi:10.1016/j.jretconser.2003.10.004

O'Cass, A. (2000). An assessment of consumers product, purchase decision, advertising and consumption involvement in fashion clothing. *Journal of Economic Psychology*, 21(5), 545-576.

Pandelaere M. and Dewitte S. (2006). On-line versus memory-based information credibility inferences for memory-based product judgements. *Advances in Consumer Research*, *33*(1), 565-568. *http://acrwebsite.org/volumes/12395/volumes/v33/NA-33*

Park, J.W. and Hastak, M. (1994), Memory-based product judgments - effects of involvement at encoding and retrieval, *Journal of Consumer Research*, *21*(3), 534-547. doi:10.1086/209416

Petty, R.E. and Cacioppo, J.T. (1986). The elaboration likelihood model of persuasion. In L.

Berkowitz (Ed.), *Advances in Experimental Psychology*, *19* (pp. 123-205), San Diego, CA: Academic Press. doi: 10.1016/S0065-2601(08)60214-2

Pham, M. T. and Chang, H. H. (2010). Regulatory focus, regulatory fit, and the search and consideration of choice alternatives. *Journal of Consumer Research, 37* (December), 626-640. *edu/doi/pdf/10.1086/655668*

Pieters, R. G., & Verplanken, B. (1995). Intention□behaviour consistency: Effects of consideration set size, involvement and need for cognition. *European Journal of Social Psychology*, ***25***(5), 531-543.

Posavac, S. S., Herzenstein, M. and Sanbonmatsu, D. M. (2003). The role of decision importance and the salience of alternatives in determining the consistency between consumers' attitudes and decisions. *Marketing Letters, 14*, 47-57. doi: 10.1023/A:1022858118201

Priester,, J. R., Nayakankuppam, D., Fleming, M. A. and Godel, J. (2004). The A2SC2 model: the influence of attitudes and attitude strength on consideration and choice. *Journal of Consumer Research, 30*, 574-587. doi:org/10.1086/380290

Ratneshwar, S. and Shocker, A.D. (1991). Substitution in use and the role of usage context in product category structures, *Journal of Marketing Research*, *28*(3), 281-295. doi: 10.2307/3172864

Reilly, M. and Parkinson, T.L. (1985). Individual and product correlates of evoked set size for consumer package goods. *Advances in Consumer Research, 12*, 492-497. http://www.vancouver.wsu.edu/acr/home.htm

Richins, M.L. and Bloch, P.H. (1986). After the new wears off: The temporal context of product involvement, *Journal of Consumer Research, 13*(2), 280-285. doi: 10.1086/209067

Richins, M.L., Bloch, P.H. and McQuarrie, E.F. (1992). How enduring and situational

involvement combine to create involvement responses, *Journal of Consumer Psychology*, 1(2), 143- 153. doi: 10.1016/S1057-7408(08)80054-X

Rizomyliotis, I., Konstantoulaki, K., Kostopoulos, G., & Poulis, A. (2017). Reassessing the influence of mental intangibility on consumer decision-making. *International Journal of Market Research*, 59(4).

Roberts, J. (1989). A grounded model of consideration set size and composition, *Advances in Consumer Research, 16*, 749-757. http://www.vancouver.wsu.edu/acr/home.htm

Robinson, W.T. and Fornell, C. (1985). Sources of market pioneer advantages in consumer-goods industries, *Journal of Marketing Research, 22*(3), 305 doi: 10.2307/3151427

Romaniuk, J. (2013) Modeling mental market share. *Journal of Business Research*, 66(2), 188-195.

Romaniuk, J. and Nenycz-Thiel, M. (2013) Behavioral brand loyalty and consumer brand associations .*Journal of Business Research*, 66(1), 67-72.

Romaniuk, J., and Nenycz-Thiel, M. (2016). Lapsed buyers' durable brand consideration in emerging markets. *Journal of Business Research, 69*(9), 3645-3651.

Rottenstreich, Y., Sood, S. and Brenner, L. (2007). Feeling and thinking in memory-based versus stimulus-based choice. *Journal of Consumer Research, 33*(4), 461-469. doi: 10.1086/510219

Sherif, M. and Hovland, C.E. (1961),. *Social Judgment*, New Haven: Yale University Press.

Shocker, A.D., Ben-Akiva, M., Boccara, B. and Nedungadi, P. (1991). Consideration set influences on consumer decision- making and choice: issues, models, and suggestions. *Marketing Letters, 2*(3), 181-197. doi:10.1007/BF02404071

Spears, N., Ketron, S., and Ngamsiriudom, W. (2016). Three peas in the pod of consumer imagination: Purchase task, involvement, and ad information. *Journal of Consumer Behaviour*, *15*(6), 527-537.

Stocchi, L., Banelis, M., and Wright, M. (2016). A new measure of consideration set size: the average number of salient brands. *International Journal of Market Research*, *58*(1), 79-94.

Su, S., Chen, R. and Zhao, P. (2008). The impact of size of self-generated consideration set on post-choice regret. *Advances in Consumer Research, 35*(1), 805-806. *http://acrwebsite.org/volumes/13611/volumes/v35/NA-35*

Suh, J. (2009). The role of consideration sets in brand choice: the moderation role of product characteristics. *Psychology & Marketing*, *26*(6), 534-550. DOI: 10.1002/mar.20286

Terech, A., Bucklin, R. E. and Morrision, D. G. (2009). Consideration, choice and classifying loyalty. (2009), *Marketing Letters*, *20*, 209-225

Traylor, M.B. and Joseph, B.M. (1984). Measuring consumer involvement in products: Developing a general scale. *Psychology & Marketing*, *1*(2), 65- 77. doi:10.1002/mar.4220010207

Trinh, G. (2014). A stochastic model of consideration set sizes. *Journal of Consumer Behaviour*, 14(3), 158–164

Turley, L. W., and LeBlanc, R. P. (1995). Evoked sets: a dynamic process model. *Journal of Marketing Theory and Practice*, *3*(2), 28-36, doi: 10.1080/10696679.1995.11501682

Turley, L. W., and LeBlanc, R. P. (1995). Evoked sets: a dynamic process model. *Journal of Marketing Theory and Practice*, *3*(2), 28-36, doi: 10.1080/10696679.1995.11501682

Van Kerckhove, A., Vermeir I. and Geuens M. (2011). Combined influence of selective focus and decision involvement on attitude-behaviour consistency in a context of memory-

based decision making. Psychology & Marketing, 28(6), 539-560. doi:10.1002/mar.20286

Van Nierop, E., Bronnenberg, B., Paap, R., Wedel, M. and Frances, P. H. (2010).Retrieving unobserved consideration sets from household panel data. *Journal of Marketing Research,* 47(February), 63-74.

Wu, J. & Rangaswamy, A. (2003). A fuzzy set model of search and consideration with an application to an online market**,** *Marketing Science*, **22** (Summer), 411-434

Xie, X., and Jia, Y. (2016). Consumer Involvement in new product development: A case study from the online virtual community. *Psychology & Marketing, 33*(12), 1187-1194.

Zaichkowsky, J.L. (1985). Measuring the involvement construct. *Journal of Consumer Research, 12*(3), 341-352. doi: 10.1086/208520